

Abstract of the Disclosure:

An intradyne receiver provides a received intradyne signal X which comprises at least two, mutually phase-shifted, and N-ary phase shift keyed intradyne part signals X_k . Here N=2 for 5 binary and N=4 for quaternary PSK. For carrier recovery purposes their frequency is multiplied by a factor of N in an intradyne frequency multiplier FM. After passing a lowpass filter TPY the filtered, frequency-multiplied intradyne signal is passed through an intradyne frequency divider IDF1, IDF2 10 with carrier intradyne signals C1, C2 as output signals that allow to demodulate the received intradyne signal X. The intradyne frequency divider undertakes more than one state change while changing the phase of the carrier intradyne signal by $2\pi/N$. It can be formed as a regenerative intradyne 15 frequency divider. When used for coherent optical data transmission this allows to tolerate comparatively large laser line widths.